

Title: **Can the Nanoflare Model Reproduce Observed Emissions?**

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All theories that attempt to explain the high temperatures observed in the solar corona are based on short bursts of energy release. The intensities and velocities measured in the core of an active, however, can be steady over many hours of observation. One heating scenario that has been proposed to reconcile such observations with models is the “long nanoflare storm,” where short duration heating events occur infrequently on many sub-resolutions strands. In this Letter, we examine the emission measure distribution predicted for such a heating scenario by modeling an arcade of strands in an active region core. Comparisons of the computed emission measure distributions with recent observations indicate that that the long nanoflare storm scenario implies much more 1 MK emission than is actually observed for all plausible combinations of loop lengths, heating rates, and abundances. We conjecture that if the plasma had “super coronal” abundances, the model may be able to match the observations at low temperatures.